UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,412	09/29/2000	Russell Anderson	5240	9663

22862	7590	02/13/2006	

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EXAMINER
KESACK, DANIEL

ART UNIT	PAPER NUMBER
3624	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/675,412	ANDERSON ET AL.
	Examiner	Art Unit	
	Dan Kesack	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/8/2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/7/2002*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on June 8, 2005 has been entered.

Claim Objections

2.   Claim 13 objected to because of the following informalities: the claim is

identical to claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described
as set forth in section 102 of this title, if the differences between the subject matter sought to
be patented and the prior art are such that the subject matter as a whole would have been
obvious at the time the invention was made to a person having ordinary skill in the art to which
said subject matter pertains. Patentability shall not be negatived by the manner in which the
invention was made.

4.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at
      issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
      obviousness or nonobviousness.

5.   Claims 1-4, 6-13, 18, 19 rejected under 35 U.S.C. 103(a) as being

unpatentable over Deaton U.S. Patent No. 5,649,114, in view of Gopinathan U.S.

Patent No. 5,819,226.

Claim 1-4, 18, 19, Deaton teaches a system receiving transaction

information, from a transaction between a merchant and a customer, extracting

department, product and product group related to the purchase transaction

(Figure 18A), grouping products together to form product groups, and

determining which product group a given transaction should be associated with

(column 68 lines 20-63), associating a stored customer record with said

department, product, or product group as determined by product group data, said

customer record used in a predictive model for determining the likelihood of the

occurrence of future transactions. Deaton further teaches that an important

aspect of the disclosed invention is "to enable a store to adopt a risk management approach to credit verification based on a customer's transactional history" (column 4 lines 54-56).

Deaton fails to teach a method of predictive models for grouping a plurality of merchants. However, Deaton teaches a method and system for predictive models for grouping a plurality of products. Deaton discloses the invention application of risk management and credit verification, and further discloses "while the prior disclosure has described infrequent shopping history criteria in terms of store purchases, department purchases or specific product purchases, it is important also to use arbitrary groupings of products and use that as a target criteria (column 100, line 29-46)." In light of these teachings, it would be obvious to one of ordinary skill in the art at the time of the Applicant's invention modify Deaton to group products according to merchant, thereby forming the Applicant's disclosed invention, as this would further accomplish the stated application of risk management and credit verification.

Deaton fails to teach the step of detecting fraud using predictive modeling using a calculated level of risk, determining a and determining whether to approve the transaction based on said level of risk. Gopinathan discloses a system and method or detecting fraudulent transactions using predictive modeling, and using a level of risk determined from acquired transactional data to determine whether or not to take action on a possibly fraudulent transaction (fig. 6, 14-16). It would be obvious to one of ordinary skill in the art at the time of the Applicant's invention to modify Deaton to include these steps because

Deaton teaches the use of predictive modeling as an application of risk

management and credit verification.

Claims 6, 8, 10-13, Deaton fails to teach determining risk factors

associated with a merchant group and a customer group, and applying said risk

factor to the predictive model. The transaction fraud predictive model system

and method disclosed in Gopinathan teaches merchant specific, and customer

specific fraud variables, including average transaction amount, and average

transaction volume, which are captured and used as inputs to the predictive

model for determining the possibility of a fraudulent transaction (column 8 –

column 17). It would be obvious to one of ordinary skill in the art at the time of

the Applicant's invention to modify Deaton to include these steps because

Deaton teaches the use of predictive modeling as an application of risk

management and credit verification.

Claims 7 and 9, Deaton fails to teach the risk factor being an estimate of

the percentage of transactions that are fraudulent in a given group. Gopinathan

teaches a fraud score indicating the likelihood that a transaction is fraudulent,

and a display showing the number of groups having a sufficiently high fraud

score (figure 2). Whether this information is displayed as the number of high

scores, or as a percentage of the total number of groups is regarded as the

Applicant's intended use. Therefore, it would be obvious to one of ordinary skill

in the art at the time of the Applicant's invention to modify Deaton to include

these steps because Deaton teaches the use of predictive modeling as an application of risk management and credit verification.

Claims 5, 20-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Deaton and Gopinathan as applied above, and further in view of Carter, U.S. Patent No. 5,878,419.

Deaton and Gopinathan teach obtaining transactional information from transaction data, but fail to teach a method for deriving said data, as the applicant describes, from raw transaction data by stemming and equivalencing the raw data, and determining low categorical information from high categorical text data related to the transaction.

Carter discloses a method for translating a formatted transaction into relational form so that the data can be manipulated as structured, relational data, breaking streams of data into elements that are translated as grouped parameters corresponding to different information pertinent to the transaction. (column 3 lines 1-8 and figures 13-20). It would be obvious to one of ordinary skill in the art at the time of the Applicant's invention to modify Deaton and Gopinathan to obtain transactional data in this manner because Carter's description of the raw EDI data is substantially equivalent to the format of raw data produced in a credit card transaction.

Claims 14-17, 23 rejected under 35 U.S.C. 103(a) as being unpatentable

over Deaton and Gopinathan as applied above, and further in view of Sheppard,

U.S. Patent No. 6,026,397.

Deaton and Gopinathan fail to teach the use of affinity vectors to

determine the proximity representing relatedness of two groups.

Sheppard teaches a general purpose data analysis system and method

for the discovery of generalized patterns in large databases of consumer

transaction data for the purpose of predicting customer behavior, a neural

clustering function aided by statistical parameter evaluation methods, and uses

vector-based methods in the process to determine similarity measures. It would

be obvious to one of ordinary skill in the art at the time of the Applicant's

invention to modify Deaton and Gopinathan, combining the affinity vector

methods of Sheppard with the parameter values disclosed in Deaton and

Gopinathan in order to determine relationships between two groups, because

Sheppard discloses using the system to predict future behavior of prospective

customers, including credit risk and the likelihood of fraud. (column 20 lines 32-

50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Kesack whose telephone number is 571-272-5882. The examiner can normally be reached on M-F, 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 571-272-6747. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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HANI M. KAZIMI
PRIMARY EXAMINER